

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2002-NM-240-AD; Amendment 39-13047; AD 2003-03-22]**

**RIN 2120-AA64**

### **Airworthiness Directives; Boeing Model 737-600, -700, -700C, -800, and -900 Series Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes, that requires installing speedbrake limitation placards in the flight compartment, and revising the Limitations Section of the Airplane Flight Manual to ensure the flightcrew is advised not to extend the speedbrake lever beyond the flight detent. For certain airplanes, this AD requires modifying the elevator and elevator tab assembly. This action is necessary to prevent severe vibration of the elevator and elevator tab assembly, which could result in severe damage to the horizontal stabilizer followed by possible loss of the elevator tab and consequent loss of controllability of the airplane. This action is intended to address the identified unsafe condition.

**DATES:** Effective March 12, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 12, 2003.

**ADDRESSES:** The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Nancy H. Marsh, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6440; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes was published in the Federal Register on November 15, 2002 (67 FR 69157). That action proposed to require installing speedbrake limitation placards in the flight compartment, and revising the Limitations Section of the Airplane Flight Manual (AFM) to ensure the flightcrew is advised not to extend the speedbrake lever beyond the flight detent. For certain airplanes, that action also proposed to require modifying the elevator and elevator tab assembly.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received. One commenter concurs with the proposed AD. Two commenters state that they have no comments on the proposed AD.

## **Request To Clarify Certain Language in Paragraph (a)(2)**

One commenter asks that certain language, as specified in paragraph (a)(2) of the proposed AD, be clarified. The commenter notes that the current language, which is to be included in the AFM, states the following: "Do not extend the speedbrake lever beyond the flight detent in flight." That statement, as written, does not match the language specified in the existing AFM. The language should be changed, for clarification, to match the AFM language and should state: "In flight, do not extend the speedbrake lever beyond the FLIGHT detent."

The FAA agrees with the commenter in that the language used in paragraph (a)(2) of the AD should be clarified to match the AFM language. We have changed paragraph (a)(2) of this final rule accordingly.

## **Request To Change Discussion Section**

The same commenter asks that the Discussion section of the proposed AD be changed to remove the reference to Boeing Model 737-900 series airplanes from the first sentence. That sentence states, "The FAA has received several reports of excessive in-flight vibrations of the elevator and elevator tab on certain Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes." The commenter notes that no excessive in-flight vibrations of the elevator and elevator tab have occurred on Model 737-900 series airplanes.

The same commenter asks that certain terminology in the Discussion section of the proposed AD be changed. That section reads, in part, "[t]he elevator and elevator tab are susceptible to excessive vibration and, under certain conditions, limit-cycle flutter. These vibration events have been attributed to loose or missing components, excessive wear, or excessive freeplay of the tab." The commenter requests that it be changed to, "[t]he elevator and elevator tab are susceptible to excessive vibration and, under certain conditions, limit-cycle oscillation (LCO). These vibration events have been attributed to lack of torsional rigidity (in the case of LCO); or missing components, excessive wear, or excessive freeplay of the tab." The commenter states that LCO is the accepted and proper term to use when referring to the severe vibrations associated with lack of torsional stiffness.

We acknowledge that no excessive in-flight vibrations of the elevator and elevator tab have been reported on Model 737-900 series airplanes in-service. The intent of the Discussion section is to provide the background and events that prompted the proposed AD, and to specify that vibrations did occur on Model 737-600, -700, -700C, and -800 series airplanes in-service.

We acknowledge that the term "lack of torsional rigidity" is a valid term and could be used to describe a design deficiency that also contributes to excessive in-flight vibration. However, the terms "LCO" and "LCF" are not commonly used terms in the airline industry; these terms are used primarily by airplane manufacturers. We have concluded that the term "high amplitude oscillations of the elevator tab" best describes the condition in a manner understood by the airline industry.

Since the Discussion section of a proposed AD is not restated in a final rule, no change to this final rule is necessary to address the issues raised by the commenters.

## **Conclusion**

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the change previously described. The FAA has determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Cost Impact**

There are approximately 1,174 airplanes of the affected design in the worldwide fleet. We estimate that 550 airplanes of U.S. registry will be affected by this AD.

It will take approximately 1 work hour per airplane to accomplish the required placard installation, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the required installation on U.S. operators is estimated to be \$33,000, or \$60 per airplane.

It will take approximately 1 work hour per airplane to accomplish the required AFM revision, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the required revision on U.S. operators is estimated to be \$33,000, or \$60 per airplane.

It will take approximately 88 work hours per airplane to accomplish the required modification of the elevator and elevator tab assembly, at an average labor rate of \$60 per work hour. The FAA has been advised by Boeing that the manufacturer will provide parts for the elevator/tab retrofit, including shipping, at no cost to operators. The manufacturer will have operators "exchange" their existing parts for new parts to support the retrofit program. Based on this information, the cost impact of the required modification on U.S. operators is estimated to be \$2,904,000, or \$5,280 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

## **Regulatory Impact**

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2003-03-22 Boeing:** Amendment 39-13047. Docket 2002-NM-240-AD.

**Applicability:** Model 737-600, -700, -700C, -800, and -900 series airplanes; line numbers 1 through 1174 inclusive; certificated in any category.

**Note 1:** This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent severe vibration of the elevator and elevator tab assembly, which could result in severe damage to the horizontal stabilizer followed by possible loss of the elevator tab and consequent loss of controllability of the airplane, accomplish the following:

## **Airplane Flight Manual (AFM) Revision/Placard Installation**

(a) For Model 737-600, -700, -700C, -800, and -900 series airplanes having line numbers 1 through 1043 inclusive: Within 90 days after the effective date of this AD, do the actions specified in paragraphs (a)(1) and (a)(2) of this AD.

(1) Install a speedbrake limitation placard on the P1-1 and P3-3 panel assemblies per Figure 1 or Figure 2, as applicable, of paragraph 3.B., "Work Instructions," of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-11A1109, dated March 28, 2002.

(2) Revise the Limitations Section of the FAA-approved AFM to include the following statement (this may be accomplished by inserting a copy of this AD in the AFM): "In flight, do not extend the speedbrake lever beyond the FLIGHT detent."

## **Modification**

(b) For Model 737-600, -700, -700C, and -800 series airplanes having line numbers 1 through 1174 inclusive: Before the accumulation of 18,000 total flight cycles, or within 2 years after the effective date of this AD, whichever occurs first, modify the elevator and elevator tab assemblies (including installation of a new clevis fitting and a new tab mechanism on the horizontal stabilizer and, for certain airplanes, examination of the hinge plates on the stabilizer trailing edge to make sure the specified hinges are installed; changes to the seals in the balance bays; and installation of new

elevators and tab assemblies, followed by adjustments and tests of the new installation), per the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1080, dated September 19, 2002.

(c) Accomplishment of the modification required by paragraph (b) of this AD terminates the actions required by the ADs specified in the following table:

<b>AD Number</b>	<b>Amendment Number</b>
AD 99-15-09	39-11229
AD 99-18-01	39-11267
AD 2001-08-09	39-12186
AD 2001-09-51	39-12251
AD 2001-12-51	39-12294
AD 2001-14-05	39-12315
AD 2002-08-20	39-12732
AD 2002-08-52	39-12727

### **Operator's Equivalent Procedure**

(d) If the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1080, dated September 19, 2002, specify that the actions may be accomplished in accordance with an operator's "equivalent procedure:" The actions must be accomplished per the applicable chapter of the Boeing 737 Airplane Maintenance Manual specified in the alert service bulletin.

### **Alternative Methods of Compliance**

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

### **Special Flight Permit**

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

### **Incorporation by Reference**

(g) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 737-11A1109, dated March 28, 2002; and Boeing Alert Service Bulletin 737-55A1080, dated September 19, 2002; as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**Effective Date**

(h) This amendment becomes effective on March 12, 2003.

Issued in Renton, Washington, on January 29, 2003.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03-2496 Filed 2-4-03; 8:45 am]

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